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MEDICAL RESEARCH COUNCIL

CATALOGUE OF THE NATIONAL COLLECTION OF TYPE CULTURES

MAINTAINED AT
THE LISTER INSTITUTE OF PREVENTIVE MEDICINE
CHELSEA GARDENS, LONDON, S.W.

UNIVERSITY COLLEGE. LONDON.

LONDON
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15 Buckingham Street,
Strand, W.C. 2.

National Collection of Type Cultures.

Director J. C. G. Ledingham, C.M.G., D.Sc., F.R.S.

Curator . R. St. John-Brooks, M.A., M.D., D.P.H.

Assistant Curator. Miss M. Rhodes.

Lister Institute of Preventive Medicine,
Chelsea Gardens, S.W.

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INTRODUCTION

THE Council have long had in view the formation of a National Collection of Type Cultures, from which biologists in general and bacteriologists in particular might obtain from a trustworthy source authentic strains of recognized bacteria and protozoa for use in scientific work. The need of an available supply of this kind has long been felt in many directions, and particularly in medical research work, both for the study of principles and methods in bacteriological investigations and for the systematic classification of bacteria and protozoa in their various species and strains. In the past the needs of workers in this respect have never been fully met. In this country the Lister Institute of Preventive Medicine has for many years assisted bacteriologists both at home and abroad, so far as the resources of its own private collection have permitted, but British workers have been dependent in great part upon the courtesy of scientific colleagues or upon the collections of Institutes in other countries. Before the war the collection at the Pasteur Institute in Paris, maintained by M. Binot, was very helpful to workers here. A collection of type cultures was formerly maintained on a commercial basis by Král at Prague, and this was subsequently transferred to the Serophysiological Institute of Vienna. This source of supply was never completely satisfactory, although many made use of it. In America the Museum of Natural History in New York has maintained a Culture Bureau during recent years, and it is believed that the activities of the Bureau have been of the greatest benefit to workers there, not only by the provision of authentic cultures, but also by the studies in classification made by its staff.

Early in 1920 the Council were able, by the courtesy of the Governing Body of the Lister Institute, to make arrangements to maintain a National Collection of Type Cultures at the Institute, where all the necessary facilities were provided. The scheme is under the general direction, on behalf of the Council,

(3940). Ps. 36779. Wt. 21732. 855/336. 1000. 2/22. O.U.P. A 2

of Dr. J. C. G. Ledingham, F.R.S., a member of the staff of the Lister Institute, while Dr. R. St. John-Brooks and Miss M. Rhodes have been appointed by the Council to be Curator and Assistant Curator of the Collection respectively. The Medical Research Council are greatly indebted to the Governing Body of the Lister Institute for this opportunity of establishing a central collection upon a proper footing without further delay. The present arrangement is made for a short term of years, before the end of which the future location of the Collection will be considered.

Attention has been concentrated primarily upon obtaining fully authenticated strains of pathogenic organisms, but as opportunity offers additions are also being made to the series of bacterial and protozoal strains of economic importance. Subsidiary researches are also being undertaken with a view to the discovery of economical and labour-saving methods of sub-culture. The staff of the Collection are also prepared to give help in the identification of strains received from workers at home or abroad.

It became apparent during last year that mycologists in this country felt the need of a similar collection. To some extent the Centraalbureau voor Schimmelcultures, Amsterdam (now at Baarn), has been found useful by British botanists, but it was the general opinion that a collection of fungi in this country was necessary for the co-ordination of research. As the formation of a collection of this kind was not at the time contemplated by any other institution, it was considered that the scope of the National Collection of Type Cultures should be extended in this respect. Working relations were accordingly established with the British Mycological Society, and a fully representative standing committee, of which the Curator of the National Collection is a member, has been appointed by the Society to consider and advise upon the ways in which the Collection may be made valuable to mycologists and to the study of fungi. It is proposed to collect and maintain cultures of fungi of importance in plant-pathology, medicine, veterinary science, technology, and soil biology, as well as types useful for teaching purposes and specially rare or interesting species. The mycological section of the Collection will for the present be restricted to about five hundred strains : annual lists will be published in the

Transactions of the British Mycological Society, and a set of type slides will be kept in the Botanical Department of the British Museum (Natural History) in addition to a working set in the Collection itself.

In presenting this first catalogue of strains maintained in the Collection the Council hope that workers in all spheres of microbiology will find it of value as a guide to the present resources of a collection on which they may make demands. It is also hoped that workers will in return assist the Collection by presenting new material for permanent maintenance. To the many who have already been donors the Council's grateful thanks are due, and it will continue to be the aim of the Council, and of the staff of the Collection, to maintain the fullest international reciprocity in this field.

In view of the present position of the problems involved in the classification of micro-organisms it has been thought more convenient, for the practical purposes of this Catalogue, to adopt an alphabetical rather than a taxonomic arrangement. The main list (Part I) is supplemented, however, by a subject index (Part II) giving cross-references under aetiological headings. As regards the nomenclature employed, it has been considered inadvisable to depart very widely from long-established usage: the need for international uniformity in this respect is nevertheless recognized, and it is hoped in future editions to take fuller cognizance of the labours of systematists in this and other countries.

15 Buckingham Street,
London, W.C. 2,
28th January 1922.

NOTE

The co-operation of bacteriologists is earnestly invited, and in return every effort will be made to supply the needs of applicants for cultures. Cultures that may be sent either for identification or for maintenance in the Collection should be accompanied by the fullest particulars as to source and date of isolation and, if possible, by clinical and epidemiological notes. It must naturally be left to the discretion of the Director to decide whether given cultures are of sufficient importance to be maintained in the Collection, but it is hoped that this will not deter workers from forwarding strains of even the commonest types of organism. These will have value in view of the necessity for maintaining an adequate representation of strains of recent origin. Studies in classification will also be aided if large series of authentic specimens of closely related species are made available for workers.

Cultures will be supplied on demand so far as possible to workers at home or abroad, and, as a rule, a small charge will be made to defray the cost of media and postage.

It is requested that all communications be addressed to THE CURATOR, NATIONAL COLLECTION OF TYPE CULTURES, LISTER INSTITUTE, CHELSEA GARDENS, LONDON, S.W. 1.

CATALOGUE OF THE NATIONAL COLLECTION OF TYPE CULTURES

PART I. ALPHABETICAL LIST OF THE ORGANISMS

WITH DETAILS OF THE STRAINS WHICH ARE MAINTAINED

Some or all of the following particulars are given, in the order named:

1. Reference Number.
2.* Other particulars of the Type, Group or Variety to which the strain belongs.
3. Name of the person or institution from whom the strain was received either directly or through some intermediate agency.
4. Name, number or letter by which the strain has been previously known. *In order to avoid confusion this is printed in italic type.*
5. Particulars of the source from which the strain was isolated. The name of the isolator, when available, and the date of isolation.
6. Other information considered likely to be useful.
7. Date on which the strain was deposited in the National Collection. This is printed at the end of the last line of each entry.

Acladium castellani Pinoy

706. Prof. Castellani. Isolated 1915. 1920
(Castellani and Chalmers, *Manual of Tropical Medicine*, 3rd Ed., 1919, pp. 1112 and 2089.)

Acrostalagmus cinnabarinus

798. *Underground.* Isolated by Dr. Graham Forbes, L.C.C., from dust of London Tube Railway, 1920. 1921

Actinobacillus

629. Royal Vet. Coll., London. *121 Ox.* Submaxillary gland of a S. American Ox. 1920

Actinomyces bovis (anaerobic type, Wolff and Israel, 1891)

783. Dr. P. Fildes, London Hosp. *Wilkinson.* Localized abscess in appendicular region and sinus. 1920
2 other strains.

* Results of attempts to differentiate organisms of certain groups serologically are given when available. For the majority of those of the Salmonella group the Collection is indebted to Dr. Schütze, Sir Frederick Andrewes, F.R.S., and various donors. The multiplicity of names and sources attached to organisms of this group as they enter the collection has made this identification work necessary, but the results, as recorded, are, in the present state of knowledge, to be regarded only as working guides.

Actinomyces caprae

659. Lister Inst. *Lister.* 1920

Actinomyces (*Aerobic types from Man*)

600. *Horton.* Isolated by Capt. St. John Brooks, R.A.M.C., from pus containing typical actinomycotic granules from parotid abscess, Horton War Hosp., Epsom, 1919. 1920

434. Lister Inst. *Human.* 1920

See also *Nocardia lutea* and *Nocardia tropica.*

Actinomyces (white)

390. *Soil.* Isolated by Dr. S. G. Paine, Imperial Coll. of Science, S. Kensington, 1917. 1920

Alternaria ? sp.

1007. *Ireland.* Isolated by Miss Lorrain Smith from rotting tent canvas from Ireland. 1921

Amylomyces rouxii. See *Mucor rouxii*

Amylomyces tapioca

605. A. Jörgensen's Lab., Copenhagen. *Thaysen.* 1920

Anthracoid bacillus

945. *China.* Isolated by Dr. Graham Forbes, L.C.C., from Chinese tooth-brush. Not pathogenic to guinea-pigs. 1921

Aplanobacter michiganense Erwin Smith

778. Prof. Erwin Smith, U.S.A. *Lacey.* Isolated by Miss Lacey, Imperial Coll. of Science, S. Kensington, from diseased tomato (Grand Rapids Disease). 1921

Aspergillus candidus Link

595. Centralstelle, Amsterdam. *Washington 106.* 1920

Aspergillus clavatus

978. Thom and Church, Washington, D.C., U.S.A. *Washington 107.* Type Culture. 1921

Aspergillus effusus Tiraboschi

973. Dr. F. B. Lutman, Vermont, U.S.A. *Washington 130.* (*Am. J. Botany*, 1921, **2**, 103.) 1921

Aspergillus flavus Brefeld

596. Centralstelle, Amsterdam. *Washington 108.* 1920

Aspergillus fumigatus

367. Capt. S. R. Douglas, St. Mary's Hosp. *Zoo.* White egret at Zoological Gardens, London, suffering from aspergillosis, 1916. 1920

One other strain (No. 982).

Aspergillus luchuensis

1017. Thom and Church. *4291. 3.* Isolated by Dr. Hanzawa, Imp. University of Tokyo. 1921

Aspergillus nidulans

793. *Underground I.* Isolated by Dr. Graham Forbes, L.C.C., from dust of Tube Railway. 1921

2 other strains (Nos. 795 and 796).

Aspergillus niger van Tieghem

603. Dr. A. Thaysen, Holton Heath, Dorset. *Thaysen.* Indian cotton. 1920

3 other strains.

Aspergillus ochraceus

979. Thom and Church. *Washington 4065. 1.* 1921

Aspergillus oryzae Ahlberg

598. Centralstelle, Amsterdam. *Washington 113.* 1920
One other strain (No. 965).

Aspergillus parasiticus Speare

975. Thom and Church. *Mealy bug.* Isolated by Speare in Honolulu, 1912 or earlier. Parasitic upon the mealy bug of sugar-cane (*Pseudococcus calceolariae* Mask). (*Am. J. Botany*, 1921, **2**, 103.) 1921

Aspergillus repens

794. *Underground.* Isolated by Dr. Graham Forbes, L.C.C., from dust of Tube Railway. 1921

Aspergillus sydowi

980. Thom and Church. *Washington 3521.* 1921

Aspergillus tamari Kita

599. Thom and Church. *Washington 4235 x. l.* Soy products used in making salt pickles, China. 1920

Aspergillus terreus

981. Thom and Church. *Washington 144.* 1921

Aspergillus terricola var. ***americana*** Marchal

974. Thom and Church. *Washington.* Isolated by Scales from redland soil in Georgia, 1914 or earlier. (*J. Biol. Chem.*, 1914, **19**, 459.) 1921

Aspergillus wentii Wehmer

597. Centralstelle, Amsterdam. *Washington 116.* 1920

B. abortivo-equinus (*Salmonella*, unclassified serologically)

626. Royal Vet. Coll., London. *Foal 3.* Heart blood of aborted foal, 1917. 1920

427. Dr. Krumwiede, New York. *215.* Isolated by Dr. K. F. Meyer from abortion in mare. 1920

451. Prof. Murray, Iowa State Medical College. *709.* (*J. Infect. Dis.*, 1919, **25**, 341.) 1920

766. Prof. Denys, Louvain. *Avortement cheval.* (*Compt. rend. Soc. de biol.*, 1919, **82**, 954.) 1920

B. abortus

369. Dr. Eagleton. *1 Bang.* One of Bang's strains sent from Copenhagen, 1913. 1920

624. *English strain 8.* Isolated by Capt. Edwards, R.A.V.C., Royal Vet. Coll., London, from stomach of foetal calf, 1919. 1920

900. Dr. K. F. Meyer. *Hog.* Isolated by Dr. Taum from liver of aborted hog foetus, 1920. 1921
9 other strains from various sources.

B. aceti

612. A. Jörgensen, Copenhagen. *Thaysen.* Vinegar. 1920

B. acetoethylicum

1068. American Museum of Natural History, New York. *234. A.* Isolated by J. H. Northrop, Rockefeller Inst., New York. (*J. Biol. Chem.*, 1919, **39**, 1.) 1921

B. acidi lactici Grotenfelt, Hueppe

413. American Museum of Natural History, type strain. *131.* Faeces. (*J. Bact.*, 1919, **4**, 429.) 1920
3 other strains.

B. acnes

737. *Ponsonby.* Isolated by Dr. A. F. Hayden, St. Mary's Hosp., from severe case of facial acne. 1920

3 other strains.

B. aerofetidus Weinberg and Séguin, 1916

505. Prof. McIntosh. *208.* 1920

B. aerogenes pfeifferi. See *B. lactis aerogenes*

B. aertrycke. See *B. suipestifer*

B. anatum (*Salmonella*, type Mutton)

851. Prof. Rettger, Yale University. *Ovum W.* Isolated from ovary of duck during epizootic in Massachusetts, U.S.A. 1921

B. anthracis

108. Lister Inst. *Paddington V.* Shaving brushes, 1919. 1920

631. Royal Vet. Coll., London. *17 James.* Ear vein of cow, 1912. Avirulent. 1920

7 other strains.

See also *Anthracoid bacillus.*

B. asiaticus Castellani

709. Prof. Castellani. *Castellani No. 1.* 1920

(Castellani and Chalmers, *Manual of Tropical Medicine*, 3rd Ed., 1919, pp. 944 and 1411.)

B. avisepticus

821. *Duck.* Isolated by Sir John M'Fadyean from infected duck. Duck and fowl epizootic, 1920. 1921

71. Pasteur Inst. *Fowl cholera I.* 1920

One other strain (No. 121).

B. bifermentans Tissier and Martelly

506. Miss M. Robertson. *F. .I* 1920

One other strain (No. 536).

B. botulinus

94. Inst. of Infectious Diseases, Berlin. *A.* 1920

95. ditto *B.* 1920

Burke's Types (*J. Bact.*, 1919, 4, 555)

750. Type A. Dr. G. S. Burke, Stanford University, Cal., U.S.A. *IX.* 1920

751. Type B. Dr. G. S. Burke. *X.* 1920

Meyer's Types

887. Type A. Dr. K. F. Meyer, University of California, U.S.A. *38.* Crop of chicken dying of botulism, 1920. 1921

888. Type B. Dr. K. F. Meyer. *40.* Intestinal wall, human case of botulism, 1920. 1921

2 other strains, No. 889, spinach, and No. 890, unbroken olives.

Kirkbride's Strains

772. Type B. Dr. Mary Kirkbride, Albany, N.Y., U.S.A. *Boise.* Home-canned asparagus at Boise, Idaho, 1919. 1920

773. Type B. Dr. Kirkbride. *Nevin.* Home-made cottage cheese, 1914. 1920

B. bovisepticus

929. Dr. Houghton, Parke Davis Co., Detroit, U.S.A. *01448.* Used in preparation of sera in bovine haemorrhagic septicaemia. 1921

967. Dr. W. G. Smillie, São Paulo, Brazil. *Pasteurella Ox*, a Brazilian strain from spleen of Ox. 1921

B. bronchisepticus

452. *Dog 71.* Isolated by Dr. Ferry, Parke Davis Co., Detroit, U.S.A., from lungs of dog with distemper. (*Vet. J.*, 1912, **68**, 445.) 1920

6 other strains (Nos. 453–458) from guinea-pigs, rabbits, ferrets, monkeys, white rats and Man.

B. bulgaricus

552. *1.* Isolated by Dr. C. Lind, Copenhagen, from specimen of Yoghurt from Bulgaria, 1909. 1920

76 B. *Massol.* One of Metchnikoff's original strains, supplied by him to Prof. Eyre, Guy's Hosp., 1909. 1920

One other strain (No. 554).

Bacillus (acid-fast) from butter

524. (Butter bacillus of Rabinowitsch.) National Biological Museum, New York. *New York.* 1920

Strains of acid-fast bacilli isolated by Dr. F. Griffith from guinea-pigs inoculated with butter samples in 1912. (*Rep. Local Gov. Bd.* (*Suppl. of Med. Officer*), 1912–13, **42**, 299)

337. *G.P. 330.* 1920

333. *G.P. 60.* 1920

334. *G.P. 61.* 1920

B. butylicus

619. Dr. A. Thaysen, Holton Heath, Dorset. *Thaysen.* Used during the War in the manufacture of acetone and n. butyl alcohol (Weizmann, 1915). 1920

B. caratovorus

386. *Paine.* Isolated by Dr. S. G. Paine, Imperial Coll. of Science and Technology, S. Kensington, from cabbage or turnip rot. (*Ann. Applied Biol.*, 1918, **5**, 62.) 1920

B. caviae (*Salmonella* ? Type)

428. Dr. Krumwiede, New York. *146.* Isolated by Dr. Ferry from guinea-pig epizootic, Detroit, U.S.A. 1920

B. chauvoei

287. Miss M. Robertson. *203.* Isolated by Prof. McIntosh. Cattle suffering from Rauschbrand. 1920

One other strain (No. 502).

B. cloacae Jordan

408. American Museum of Natural History, type strain. *23.* Isolated by Jordan from Chicago canal drainage, 1899. (*J. Bact.*, 1919, **4**, 429.) 1920

One other strain (No. 257).

B. cochlearius Douglas, Fleming and Colebrook

535. *T.M.I.H.C.* Isolated by Miss M. Robertson from tetanus stock laboratory culture. 1920

B. coli communis

86. Lister Inst. *Escherich.* Original Escherich strain. 1920

692. Sir Alexander Houston. *Houston 2.* 1920

4 other strains.

Bacillus (coliform)

762. Prof. W. Bulloch. *J. M.* Urine in chronic cystitis, 1920. 1920

The following organisms have been grouped by Dr. Lepper in accordance with MacConkey's scheme (*J. Path. and Bact.*, 1921, **24**, 192):

***Bacillus* (*coliform*) (*continued*)**

844. Group I. *Reeves.* Urine in acute cystitis, 1920. 1921
845. Group I. *A. F.* Urine in chronic cystitis, 1920. 1921
846. Group II. *Nurse S.* Urine in acute cystitis, 1920. 1921
847. Group II. *Brown.* Abscess in kidney. 1921
848. Group III. *Sherry.* Urine in acute cystitis, 1918. 1921
849. Group IV. *Phillips.* Urine, 1920. 1921

For other coliform bacilli *see* under special names.

B. columbensis Castellani

708. Prof. Castellani. *Castellani.* Isolated 1905. 1920
(*Centralbl. f. Bakt.* (&c.), 1914, Orig., **74**, 197; Castellani and Chalmers, *Manual of Tropical Medicine*, 3rd Ed., 1919, pp. 946 and 1410.)

B. communior Durham

419. American Museum of Natural History, type strain. *137.* (*J. Bact.*, 1919, **4**, 429), 1911. 1920

B. cuniculisepticus

826. *Rabbit.* Isolated by Dr. Kanai, Lister Inst., from subcutaneous abscess in a laboratory rabbit, 1920. 1921

One other strain received as *B. lepisepticum* (No. 954).

B. dendroides

927. H. G. Thornton. *Rothamsted.* Soil, Rothamsted Experimental Station, Harpenden, Herts. 1921

B. diphtheriae. See *Corynebacterium diphtheriae*

B. dysenteriae Flexner

Strains received from Sir F. W. Andrewes (*M.R.C. Special Report Series, No.* 42, 1919).

1. Type W. *Cable.* Isolated by Broughton-Alcock from reputed first case of dysentery, British Front, Flanders, 1914. 1920
2. Type X. *Hughes.* Carrier, University War Hospital, Southampton. 1920
3. Type V. *Oxford Flexner.* Strain used in Standards Laboratory, Oxford. 1920

727. Type V. Prof. Lentz, Berlin. *Lentz-Flexner.* 1920

4. Type WX. *Mountain 2,464.* Carrier, University War Hospital, Southampton. 1920
5. Type VZ. *Stansfield.* Carrier, University War Hospital, Southampton. 1920
6. Type Y. American Museum of Natural History, type strain *Original Hiss and Russell*, from General Russell himself. 1920
7. Type Z. *Whittington.* Carrier, University War Hospital, Southampton. 1920

Strains isolated at Lister Institute, 1918, from intestinal ulcers of monkeys naturally infected with dysentery

781. Type W. *Mariee.* 1920
712. Type Y. *Paddi.* 1920

13 other strains, various types and sub-types.

B. dysenteriae Schmitz. *See B. schmitz*

B. dysenteriae Shiga

152. *Wynne.* Isolated by Dr. Ledingham, King George Hosp. Case from Gallipoli, 1915. 1920

B. dysenteriae Shiga (*continued*)

187. *Parker.* Isolated by Lt.-Col. Martin at Lemnos, 1916. 1920
5 other strains.

B. dysenteriae Sonne type II (Thjøtta III)

268. Thjøtta, Christiania. *20.* Child with dysentery. (*J. Bact.*, 1919, **4**, 355.) 1920
One other strain (No. 269).

B. enteritidis Gärtner

75. Pasteur Inst. *Bainbridge.* Isolated 1908, unknown source. (*J. Path. and Bact.*, 1909, **13**, 443.) 1920
410. Rockefeller Inst. *18.* Type strain of American Museum of Natural History. (*J. Bact.*, 1919, **4**, 429.) 1920
125. *Limerick.* Isolated by Prof. McWeeney from food-poisoning outbreak in Limerick, 1910. 1920
128. *McNee.* Isolated by Dr. McNee from blood and broncho-pneumonic lesions of patient who died with symptoms of acute toxaemia, 1917. 1920
127. *Stokes.* Case of fatal enteritis, France, 1917. 1920
126. *Newcastle.* Isolated by Prof. Hutchens from milk that caused food-poisoning, 1910. 1920
618. Messrs. Evans, Lescher, Son & Webb, Liverpool. *Rat Virus B* (*Liverpool Virus*). 1920
617. Ratin Laboratory, London. *Rat Virus A* (*Ratin*). 1920
205. Lister Inst. *Danysz.* 1920
810. *Rat.* Spontaneous infection in rat (multiple pulmonary abscesses), Lister Inst., 1920. 1921
5 other strains.
See also *B. paracoli.*

B. erysipelatis suis

808. Capt. Edwards, Royal Vet. Coll., London. *Edwards.* Vegetation on heart valve from case of swine erysipelas, 1920. 1920

B. faecalis alcaligenes

415. American Museum of Natural History, type strain. *439.* Faeces. (*J. Bact.*, 1919, **4**, 429.) 1920
One other strain (No. 655).

B. fallax Weinberg and Séguin, 1915

508. Miss M. Robertson. *Morcom.* Blood culture from fatal case of gas gangrene. 1920
2 other strains.

B. fluorescens liquefaciens

950. Dr. Houghton, Parke Davis Co., Detroit, U.S.A. *Detroit.* 1921
One other strain (No. 964).

B. fluorescens non liquefaciens

912. *Urine.* Isolated by Dr. H. Schütze, Lister Inst., from urine, 1921. 1921

B. gallinarum Klein

416. American Museum of Natural History. *43.* (*J. Bact.*, 1919, **4**, 429.) Probably identical with *B. sanguinarium.* 1920
2 other strains (Nos. 987 and 988).

B. glässer. See *B. typhi suis*

B. güntheri Lehmann and Neumann

661. Dr. A. Thaysen, Holton Heath, Dorset. *Thaysen.* St. Ivel cheese. 1920

B. herbicola aureum
610. Dr. Thaysen. *Thaysen.* Grass. 1920

B. herbicola rubrum
609. Dr. Thaysen. *Thaysen.* Grass. 1920

B. histolyticus Weinberg and Séguin, 1916
503. Miss M. Robertson. *Weinberg.* Isolated by Weinberg from case of gas gangrene. 1920

Bacillus from Hog Cholera (*Salmonella*, type Hirschfeld)
357. Dr. Ten Broeck. *16.* (*J. Exper. M.*, 1918, **28**, 759.) 1920

B. influenzae
293. R.A.M. Coll., Millbank. *Smellie.* Sputum of influenza patient, 1919. 1920
292. *Rosenheim.* Case of acute recurring catarrh, 1919. 1920
8 other strains.

B. johne
910. *19.* Isolated by Dr. F. W. Twort from typical case of Johne's disease, 1920. 1921
One other strain (No. 911).

B. kützingianum Hansen
614. A. Jörgensen, Copenhagen. *Thaysen.* Vinegar. 1920

B. lactis aerogenes Escherich
418. American Museum of Natural History, type strain. *240.* Probably descended from Pfeiffer's original Capsule Bacillus. (*J. Bact.*, 1919, **4**, 429.) 1920
One other strain (No. 243).
See *Leather Bacillus.*

B. lathyri
389. *Tomato.* Isolated by Dr. S. G. Paine, Imperial Coll. of Science, S. Kensington, from tomatoes, 1919. (*Ann. Applied Biol.*, 1919, **6**, 183.) 1920

Bacillus from Leprosy
Strains received from Prof. Duval, New Orleans, U.S.A.
509. 'Kedrowsky.' Kraus, Vienna. *Kraus.* 1920
510. 'Rost and Williams.' 1920
511. 'Nabarro-Bayon.' 1920
512. 'Clegg I.' Recovered from leprous lesions by Clegg. 1920
513. 'Clegg II.' ,, ,, ,, ,, ,, ,, 1920
514. 'Duval's Chrome.' ,, ,, ,, ,, ,, Duval. 1920
515. 'Levy Chrome.' Kraus, Vienna. *Kraus.* 1920
516. 'Brinckerhoff I.' Recovered by Brinckerhoff from leprous lesions. 1920
517. 'Brinckerhoff II.' ,, ,, ,, ,, ,, ,, 1920
518. '18.' 1920
519. 'Barry.' 1920
520. 'Reinsteiner.' 1920
521. 'Currie.' 1920
522. 'Elly.' 1920

B. mallei
625. Royal Veterinary College. *Minett.* Lung of horse, 1918. 1920
One other strain (No. 120).

B. megatherium
654. Lister Inst. *Lister.* 1920

B. melitensis.

80. *Arkwright.* Isolated by Dr. Arkwright from blood of Malta fever patient, Malta, 1915–16. 1920

311. *Zammit. I.* Isolated by Dr. Zammit, Malta, from milk of goat suffering from undulant fever. 1920

Feusier and Meyer's Types (*J. Infect. Dis.*, 1920, **27**, 185)

893. Group I. R.A.M. Coll., Millbank. *20*, originally *Austria I.* 1921

892. Group II. Race Monaco. Inst. Pasteur d'Algérie. *8.* 1921

894. Group II. Dr. Eyre, Guy's Hosp. *27*, originally *Goat.* Goat's milk, Malta. 1921

891. Group III. Inst. Pasteur d'Algérie. 7, originally *R. Mun. 5.* 1921

12 other strains.

B. mesentericus

656. Lister Inst. *Lister.* 1920

Miss Jordan Lloyd's Types isolated in 1917 from Ropy Bread (see *J. Hyg.*, 1921, **19**, 380)

1023. Type A. 1921

1024. Type B. *B. I.*

1025. Type C. *C. II.*

1026. Type D. *D. II.*

1027. Type E. *E. II.*

B. mesentericus panis viscosi

962. A. Chaston Chapman, F.R.S. *Chapman.* Ropy bread. 1921

B. Morgan No. 1.

235. *33 M.* Isolated by H. de R. Morgan from case of summer diarrhoea. (*Brit. M. J.*, 1906, i, 208.) 1920

417. American Museum of Natural History, type strain. *692.* Stool of infant at Providence City Hosp. 1920

3 other strains.

B. mori

957. *Wormold.* Isolated by Dr. H. Wormold at S.E. Agricultural Coll., Wye, from mulberries, 1920. 1921

B. murisepticus

807 A. *Topley A.* Isolated from spontaneous mouse epizootic by Dr. W. W. C. Topley, Charing Cross Hosp. 1921

One other strain (No. 807).

B. mycoides

143 A. Prof. Hewlett (1918). *Hewlett.* 1920

926. H. G. Thornton. *C. R. ii Rothamsted.* Soil, Rothamsted Experimental Station, Harpenden, Herts. 1921

B. neapolitanus Fraenkel

414. American Museum of Natural History, type strain. *126.* Urinary fistula, 1911. (*J. Bact.*, 1919, **4**, 429.) 1920

B. necrophorus

650. Royal Veterinary College, London. *Cow.* Abscess in liver of slaughter-house cow, 1920. 1920

One other strain, (No. 651).

B. nephritidis equi Meyer, 1910. See *B. viscosum equi*

B. oedematiens Weinberg and Séguin, 1915

277. *Cossard.* Isolated by Miss M. Robertson in Weinberg's Laboratory, Paris, from fatal case of gas gangrene, 1918. 1920

3 other strains.

B. ovisepticus

930. Dr. Houghton, Parke Davis Co., Detroit, U.S.A. *01365.* Used in preparation of sera in ovine haemorrhagic septicaemia. 1921

B. ozaenae Perez

459. Dr. Ferry. *110895.* Isolated by H. C. Ward in Parke Davis Co. Lab., Detroit, U.S.A. 1920

2 other strains (Nos. 1060 and 1061).

B. paracoli Jensen (*B. enteritidis* Gärtner)

577. Sir F. W. Andrewes. *Calf No. 1306.* Isolated by Prof. Jensen, Copenhagen, from enteritis in calves. 1920

Two other strains (Nos. 578 and 579) from calves, Copenhagen.

B. paramelitensis

(Feusier and Meyer's *B. melitensis,* Group IV)

82. Dr. Nicolle, Tunis. *Bassett-Smith,* originally *Br.* 1920

2 other strains.

B. parasporogenes McIntosh, 1917

276. Miss M. Robertson. *R. 60 XV.* Material from an outbreak of 'blackleg' in Ireland. 1920

B. paratyphosus A Schottmüller

13. Lister Inst. *Schottmüller.* Original Schottmüller strain. 1920

133. *Haddon.* Blood, King George Hospital, London, 1915. 1920

420. American Museum of Natural History, type strain. *16.* (*J. Bact.,* 1919, **4**, 429.) 1920

4 other strains.

B. paratyphosus B Schottmüller (*Salmonella,* type Schottmüller)

15. Lister Inst. *Schottmüller-Bainbridge.* Original Schottmüller strain. 1920

14. *Tidy.* Blood, King George Hospital, London, 1915. 1920

156. Lister Inst. *Achard.* Original Achard strain. 1920

421. American Museum of Natural History, type strain. *22.* (*J. Bact.,* 1919, **4**, 429.) 1920

267. *Thjøtta.* Mucoid variety. Isolated by Thjøtta. 1920

359. *Fletcher.* Mucoid capsulated variety. Isolated by Fletcher from urine, 1917. (*Lancet,* 1918, ii, 102.) 1920

16 other strains.

B. paratyphosus C (*Salmonella,* type Hirschfeld)

90 *Para C.* Original strain isolated by Hirschfeld in Salonika. (*Lancet,* 1919, i, 296.) 1920

96. *Bagdad 31.* Isolated by MacAdam, 1918. (*J. Roy. Army Med. Corps,* 1919, **33**, 140.) 1920

99. *Bagdad 782.* Isolated by Major Gloster, I.M.S., 1917. 1920

101. *Bagdad 1251.* Isolated by Mackie and Bowen. (*J. Roy. Army Med. Corps,* 1919, **33**, 154.) 1920

309. *Postulat.* Isolated by Fry and Lundie from German prisoner of war, Rouen, 1919. (*Lancet,* 1919, ii, 51.) 1920

777. *East Africa.* Isolated by R. P. Garrow from blood in case in Portuguese East Africa. (*Lancet,* 1920, i, 1221.) 1920

10 other strains.

B. paratyphosus C Heiman (*Salmonella,* type Hirschfeld)

749. Král, Vienna. Food-poisoning in Man. (*Centralbl. f. Bakt.* (*&c.*) *Orig.* 1912, **66**, 211). 1920

B. pasteurianum Hansen

613. A. Jörgensen, Copenhagen. *Thaysen.* Vinegar. 1920

B. pertussis. Bordet.

364. Prof. Hektoen through St. Mary's Hosp., London. *Hektoen.* 1920
5 other strains.

B. pestis

144 A. *Parel.* Guinea-pig inoculated, 1920, with strains of *B. pestis*, stock organisms used for making Haffkine's prophylactic vaccine at Parel, Bombay. 1920

329 A. *Ceylon.* Isolated by Castellani in Ceylon, 1914. (*Brit. M. J.*, 1914, i, 752). 1920

330 A. *Strong.* Strong's avirulent strain used for living attenuated vaccine, Philippine Islands. (*Philippine J. Sc.*, 1907, **2**, 155.) 1920

331. *24 Manchuria.* Isolated by Dr. Petrie, Manchurian epidemic, 1910–11. 1920
6 other strains.

B. phlei

525. National Biological Museum, N.Y. *Hay.* Hay. 1920
One other strain (No. 54).

B. pneumoniae Friedländer

204. *L.I.P.M.* Probably original Friedländer strain. 1920

B. prodigiosus

256. Lister Inst. *Lister.* 1920

B. proteus anindologenes

59. Prof. van Loghem, Amsterdam. *Elders.* Case of Indian sprue. (*Ann. de l'Inst. Past.*, 1918, **32**, 295.) 1920

B. proteus mirabilis

403. University of Michigan. *Novy.* Through Prof. Rettger. (*J. Bact.*, 1919, **4**, 331.) 1920

B. proteus vulgaris

65. *K. 6.* Isolated by Dr. G. H. K. Macalister from case of food-poisoning at Yeadon, Yorks., 1913. 1920

67. *X. 19.* Strain used in the Weil-Felix reaction. 1920

401. New York University. *N.Y.U.* Through Prof. Rettger. (*J. Bact.*, 1919, **4**, 331.) 1920

B. proteus zenkeri

405. University of Chicago. *Chicago.* Through Prof. Rettger. 1916 (*J. Bact.*, 1919, **4**, 331.)
17 other strains of *B. proteus* of various types.

B. pseudotuberculosis rodentium

941. *Guinea-pig 3. a.* Isolated by Dr. Schütze at Lister Inst. from lesion of guinea-pig, 1921. 1921

824. Dr. David, Statens Bakt. Lab., Stockholm. *Stockholm.* 1921
2 other strains (Nos. 70 and 251).

B. psittacosis (*Salmonella*, type Mutton)

776. Lister Inst. 1920

B. pullorum

397. *17.* Isolated by Prof. Rettger, Yale, from affected chicks, 1917. (*J. Med. Research*, 1916–17, **35**, 443.) 1920

969. *Chick I.* Isolated at National Collection of Type Cultures from abscess in lung of affected chick, 1921. Material supplied by Miss Edith Knight. 1921
6 other strains (Nos. 395, 396, 409, 424, 970, and 971).

B. putrificus coli

260. Lister Inst. *L.I.P.M.* 1920

B. pyocyaneus

42 A. Prof. Bulloch. *Bulloch.* Case of cystitis, London Hosp., 1920. 1920

150 B. Dr. Fildes, London Hosp. *Fildes.* Case of gas gangrene of leg, 1920. 1920

254. Lister Inst. *Goat.* Stomach contents of goat, 1913. 1920

B. sanguinarium

398. Prof. Theobald Smith. *Harvard.* Isolated 1914. 1920

2 other strains (Nos. 399 and 423).

See also *B. gallinarum.*

B. schmitz

306. Sir F. W. Andrewes. *Hawkins.* Isolated by Dr. W. Fletcher from dysentery patient, University War Hosp., Southampton, 1918. 1920

Bacillus of Schweinpest (*Salmonella*, type Mutton)

748. Král, Vienna. *Schnürer.* Swine fever. 1920

B. smegmatis

523. National Biological Museum, New York. *New York.* 1920

One other strain (No. 53).

B. solanisaprus

385. Museum of Natural History, Washington, D.C. *Washington.* (*J. Agricult. Sc.*, 1917, 8, 480.) 1920

B. sphenoides Douglas, Fleming and Colebrook

507. Miss M. Robertson. *Tholby.* 1920

B. sporogenes Metchnikoff

533. *Bellette.* Isolated by Miss M. Robertson from a case of severe local gangrene, 1918. 1920

3 other strains.

B. subtilis

85. Lister Inst. *Hay.* Hay, 1916. 1920

2 other strains (Nos. 1049 and 1050).

B. suipestifer (*Salmonella*, type Arkansas)

179. *Arkansas.* (Old Lister Inst. strain.) Hog cholera. (Schütze, *Lancet*, 1920, i, 93.) 1920

B. suipestifer (*Salmonella*, type Binns)

73. *Binns.* Isolated by Dr. McNee from a case of food-poisoning in Man, France, 1917. 1920

175. *Arkwright I.* Isolated by Dr. Arkwright in Malta. 1920

B. suipestifer Uhlenhuth (*Salmonella*, type Hirschfeld)

352. Reichsgesundheitsamt, Berlin. 1920

5 other strains of porcine origin (Nos. 347, 349, 350, 351, 356).

B. suipestifer (*Salmonella*, type G)

91. *G.* Isolated at Lister Inst. from mesenteric gland of a monkey that died in the course of a dietetic experiment, 1917. 1920

B. suipestifer (*Salmonella*, type Mutton)

74. *Mutton.* Food-poisoning in Man, Newcastle, 1911. 1920

115. *Woodhead* Isolated by Lieut.-Col. Martin from blood in case of food-poisoning in France. (*J. Roy. Army Med. Corps*, 1919, **33**, 37.) 1920

4 other strains from same outbreak of food-poisoning (Nos. 116, 117, 118, 119).

B. suipestifer (*Salmonella*, type Mutton) (*continued*)

178. *MacConkey.* Isolated by Dr. MacConkey from cooked rabbit, consumption of which caused fatal infection in child. (*J. Hyg.*, 1905, **6**, 570). 1920

32. *Calf 32. Blood.* Isolated by Major Gloster, I.M.S., from blood of calf, epizootic of enteritis in calves, Amara, Mesopotamia, 1918. 1920

2 other strains from this epizootic (Nos. 31 and 33).

106. *Skunk.* Isolated by Dr. McGowan from spleen of skunk, epizootic in skunk farm in north of England.

959. *G.P.K. 1.* Epizootic among guinea-pigs at Lister Inst. 1920. 1921

B. suipestifer (*Salmonella*, type Newport)

129. *Newport.* Isolated from case of fatal food-poisoning in Man, 1915. (Schütze, *Lancet*, 1919, i, 93.) 1920

726. *Liston 197.* Isolated by Major Glen Liston, I.M.S., from stool of 'Para B' carrier, Richmond, 1917. Typed by Schütze, Oct. 1921. 1920

B. suipestifer (*Salmonella*, type Reading)

72. *Reading.* Isolated by Dr. Schütze from water-supply, Reading, 1916. 1920

B. suipestifer (*Salmonella*, type Stanley)

92. *Stanley.* Isolated by Prof. Hutchens from case of food-poisoning in Man, 1917. 1920

B. suis (*Salmonella*, type Hirschfeld)

426. Dr. Krumwiede, New York. *131.* 1920

B. suis (*Salmonella*, type Mutton)

425. Dr. Krumwiede, New York. *112.* Source unknown. 1920

B. suisepticus

931. Dr. Houghton, Parke Davis Co., Detroit, U.S.A. *01270.* Used in preparation of sera in porcine haemorrhagic septicaemia. 1921

Bacillus of Swine typhus (*Salmonella*, type Mutton)

355. *V.* Isolated by Dr. Ten Broeck from pig inoculated with filtered emulsion of viscera of pig dead of hog cholera virus, 1918. (*J. Exper. M.*, 1918, **28**, 759.) 1920

354. *I.* Isolated by Dr. Ten Broeck from pig fed on viscera of spontaneous case of hog cholera, 1917. (*J. Exper. M.*, 1918, **28**, 759.) 1920

B. tertius Henry, 1917

336. Miss M. Robertson. *P. 7. IX.* Case of gas gangrene, 1915. 1920

2 other strains.

B. tetani

280. Miss M. Robertson. *T. 3. V.* Tetanus patient, 1917. 1920

Tulloch's Types (*Proc. Roy. Soc.*, 1919, B. **90**, 145)

279. Type I. Stock culture of unknown origin, purified by Miss Robertson. *U.S.A. II.* 1920

540. Type II. Miss Robertson. *T. 67.* Tetanus patient, 1917. 1920

539. Type III. Miss Robertson. *R. 220. E.* Tetanus patient, 1917. 1920

B. tetanomorphus

500. Miss M. Robertson. *146 T.B.I.* Septic wound which also harboured a toxic strain of *B. tetani.* 1920

2 other strains.

Bacillus from trout

145. *Fish epizootic.* Isolated by Dr. Arkwright, Lister Inst., from trout found dying in River Chess. 1920

B. tuberculosis

Amphibian Strain

946. (Tortoise tubercle, Friedmann's bacillus.) Col. Perry, R.A.M. Coll., Millbank. Obtained in Prague by Col. Russell, U.S. Medical Service, 1921. 1921

Avian Strains

51. Dr. A. Stanley Griffith. *Z.8.* Avian virus. Liver of black-winged grackle (*Graculipica melanoptera*) from Zoological Gardens, London, 1915. 1920

224 A. Dr. Louis Cobbett, Cambridge. *Cobbett.* Avian virus. 1920

919. *Bang-Nathan-Raw.* Bang's original strain. Avian virus, attenuated. Received from Bang by Dr. Nathan Raw, M.P., 1904. 1921

Bovine Strains

46. Dr. A. Stanley Griffith. *No. 1.* Bovine virus (Dysgonic Class I). Isolated directly from tubercular pharyngeal gland of a cow. 1914. 1920

47. Dr. A. Stanley Griffith. *No. 4.* Bovine virus (Class II). Perlsucht growths of a bovine, 1914. 1920

49. Dr. A. Stanley Griffith. *H. 127.* Bovine virus, attenuated. Generalized lupus, 1912. 1920

918. *Calmette-Nathan-Raw.* Calmette's original strain. Bovine virus, attenuated. Received from Calmette by Dr. Nathan Raw, M.P., 1904. 1921

Human Strains

48. Dr. A. Stanley Griffith. *Lyons.* Human virus (Eugonic). Sputum of child, 1918. 1920

52. Dr. A. Stanley Griffith. *C. G. 116.* Human virus (Dysgonic). Pus aspirated from cervical gland of boy, 1915. 1920

50. Dr. A. Stanley Griffith. *H. 151 (6).* Human virus (Eugonic), attenuated. Generalized intractable lupus, 1919. 1920

917. *Koch-Nathan-Raw.* Koch's original strain. Human virus, attenuated. Received from Koch by Dr. Nathan Raw, M.P., 1904. 1921

914. Arloing-Courmont. *Homogène.* Prof. Nègre, Pasteur Inst., Paris. 1921

B. typhi exanthematici Plotz

787. Dr. Bernstein, Mount Sinai Hosp., New York, U.S.A. *212.* 1920

B. typhi suis Glässer (*Salmonella*, type Hirschfeld)

348. Reichsgesundheitsamt, Berlin. *Poppe.* 1920

B. typhosus

163. King George Hosp. *Howard.* Type strain. Isolated, 1916. 1920

786. *Lister.* Maintained specially for use in testing disinfectants. 1920

160. *Rawlings.* Employed in Britain and America for preparation of typhoid vaccine. 1920

18 other strains isolated from various sources (blood, faeces, and urine of cases and chronic carriers).

B. vesicatorium

1010. Dr. S. G. Paine. *Pretoria.* Isolated by Miss E. M. Doidge, Lab. of Plant Pathology, Pretoria, from South African tomato canker, 1920. (*Ann. Applied Biol.*, 1921, 7, 407.) 1921

B. violaceus
680 A. Sir Alexander Houston, Metropolitan Water Board, London. Old laboratory strain. 1920
One other strain (No. 827).

B. viscosum equi Adsersen, 1916; Magnusson, 1917
932. Dr. H. Magnusson, Malmö, Sweden. *Magnusson.* Foal with polyarthritis and embolic nephritis. (*J. Comp. Path. and Therap.*, 1919, **32**, 143.) 1921

B. voldagsen Dammann (*Salmonella*, type Hirschfeld)
346. Reichsgesundheitsamt, Berlin. 1920

B. voldagsen Wegener (*Salmonella*, type Hirschfeld)
747. Král, Vienna. Food-poisoning in Man. (*Ztschr. f. Hyg. u. Infektionskrankh.*, 1913, **73**, 65.) 1920

B. volutans
620. Dr. A. Thaysen, Holton Heath, Dorset. *Thaysen.* 1920

B. welchii Migula 1900
273. *S. R. 9.* Isolated by Miss M. Robertson, Lister Inst., from fatal case of gas gangrene, 1914. 1920
5 other strains.

Bacterium from vinegar
615. Dr. A. Thaysen. *Thayson.* From vinegar factory in Copenhagen. 1920

Bacterium 'X'
972. Prof. Ling, F.I.C. *Adrian Brown.* Recovered from Prof. Adrian Brown's stock culture. Closely resembles *Saccharobacillus pastorianus* van Laer. (*J. Inst. Brewing*, 1910, **16**, 641.) 1921

Blastomyces
271. Col. Cummins. *Pink.* Blood, chronic blastomycosis, Military Hosp., Millbank, 1919. 1920
272. Col. Cummins. *White.* Urine in above case. 1920

Botrytis ? sp.
1008. *Canvas.* Isolated by Miss Lorrain Smith from rotting tent canvas. 1920

Brucella abortus Feusier and Meyer. See *B. abortus*

Brucella melitensis. See *B. melitensis*

Butter bacillus. See *Bacilli from butter*

Carlsberg Unterhefe I. See *Saccharomyces carlsbergensis*

Carlsberg Unterhefe II. See *S. monacensis*

Citromyces B Wehmer
606. A Jörgensen, Copenhagen. *Thaysen.* 1920

Coccidiodes immitis Rixford and Gilchrist, 1896
883. *3.* Isolated by Dr. K. F. Meyer, University of California, from case of San Joaquin Valley disease or coccidiodal granuloma, 1915. 1921
884. *1.* Source as in No. 883. 1920

Coliform organisms. See *Bacillus* (*coliform*)

Colpidium colpoda
25 A. *Peters.* Isolated by R. A. Peters, Biochemical Lab., Cambridge, from single cell. 1921

Corynebacterium coryzae segmentosum

934. Sir F. W. Andrewes. *Graham.* Case of nasal catarrh, 1920. 1921

Corynebacterium diphtheriae

Strains isolated from Man

380. Lister Inst., Elstree. *Park's No. 8* (*Elstree 18/79*), used in manufacture of diphtheria antitoxin. 1920

321. Lister Inst. *Herne.* Healthy carrier, 1920. Virulent. 1920

322. *Gentry.* Source as in No. 321. Non-virulent. 1920

9 other strains from Man.

Strains isolated from Horses

853. Dr. Petrie, Elstree. *Horse G.* Isolated prior to June 1918 by Capt. Minett, R.A.V.C., from pus from suspected case of ulcerative lymphangitis. (*J. Comp. Path. and Therap.*, 1920, **33**, 267.) 1920

6 other strains (Nos. 854–859) isolated by Minett from equine lesions.

Gordon Bell's Types

Received from *Major Gordon Bell, R.A.M. College, Millbank*

1051. Group I. *Park 8.* 1921

1054. Group II. *B. W. 66.*

1057. Group III. *B. W. 25.*

6 other strains.

Corynebacterium flavidum

764. Pasteur Inst., Paris. *Minett.* 1920

Corynebacterium hofmanni

231. Lister Inst. *2.* 1920

3 other strains.

Corynebacterium lipolyticum

623. Rockefeller Inst. *Rockefeller.* Cow's milk. 1920

Corynebacterium pseudotuberculosis Preisz-Nocard

621. Capt. Minett, R.A.V.C. *Watson.* Isolated by Capt. Watson, R.A.V.C., from horse suffering from ulcerative lymphangitis in France, 1918. 1920

7 other strains (Nos. 1033–1038.)

Corynebacterium pseudotuberculosis murium Kutscher

949. Dr. W. W. C. Topley, Charing Cross Hosp. *Mouse.* Mouse lesion. Pathogenic to mice. 1921

Corynebacterium pyogenes

768. Prof. Theobald Smith. *III.* Pneumonic lungs of calf. 1921

3 other strains (Nos. 769, 770, 771).

Corynebacterium xerosis

1041. Wellcome Research Laboratory, Brockwell Hall. *CD 154.* Isolated from contact case of diphtheria, 1921. 1921

One other strain (1042).

Cryptococcus farcinosus

767. Prof. Nègre, Pasteur Inst., Paris. *Rivolta.* Cause of epizootic lymphangitis in horses. 1920

Debaryomyces globosus

477. Dr. A. Klöcker, Carlsberg Lab. *Carlsberg.* 1920

Diphtheroid

754. Dr. Wood, Weston-super-Mare. *Cat.* Cat. 1920

A collection of strains of diphtheroid organisms isolated from various

lesions in Man—urethra, &c., blood, wounds, mastoid disease, &c.—is maintained. They have not been fully identified.

See also *Corynebacterium*.

Diplococcus

407. Dr. Ruth Tunnicliff. *Measles*. Blood of measles patient, 1907. (*J. Am. M. Ass.*, 1917, 68, 1028.) 1921

Diplodiella

1009. *France*. Isolated by Miss Lorrain Smith from rotting tent canvas from France. 1921

Distemper bacillus

105. *Pig 25*. Isolated by Dr. McGowan from pig epizootic, 1919. 1920

'El Tor' Vibrio. See *Vibrio El Tor*.

Emmentaler Coccus

555. Dr. C. Lind, Copenhagen. *Lind*. An acidifying and peptonizing coccus isolated from Emmentaler cheese from Switzerland. 1920

Endodermophyton indicum Castellani

703. Prof. Castellani. Isolated 1911. 1920

(Castellani and Chalmers, *Manual of Tropical Medicine*, 3rd Ed., 1919, pp. 1020 and 2059.)

Enterococcus. See *Streptococcus* (*faecal*)

Epidermophyton rubrum Castellani

702. Prof. Castellani. Isolated 1915. 1915

(Castellani and Chalmers. *Manual of Tropical Medicine*, 3rd Ed., 1919, p. 1016.)

Eurotium nidulans. See *Aspergillus nidulans*

Eurotium repens. See *Aspergillus repens*

Faecal streptococci. See *Streptococcus* (*faecal*)

Frohberg yeast. See *Yeast* (*Frohberg*)

Fumago ? sp.

968. Cause of black and dark green spots on leather. Isolated by R. Leslie Collett, F.I.C., British Leather Research Ass., 1921. 1921

Fumago vagans

986. *South Kensington*. Isolated by R. Leslie Collett, F.I.C., from sooty deposit on bark from Herbarium, Natural History Museum, South Kensington, 1921. Specimen had been conserved for 28 years. 1921

Gonococcus

361. *St. Mary's*. Isolated by Dr. Hayden, St. Mary's Hosp., from urethral discharge. 1920

7 other strains.

Hansenia apiculata Rees.

817. Prof. Harden, Lister Inst. *Harden*. 1921

Hansenia apiculata Schmitz

816. Prof. Harden. *Harden*. 1921

Hanseniaspora valbyensis

478. Isolated from soil, Valby, Copenhagen, by Dr. A. Klöcker, Carlsberg Lab. 1920

Hemispora rugosa

705. Prof. Castellani. Isolated 1910. 1920
(Castellani and Chalmers, *Manual of Tropical Medicine*, 3rd Ed., 1919, p. 1108)

Kefir Yeast. See *Yeast* (*Kefir*)

Koch-Weeks' Bacillus

989. Isolated by Mr. S. H. Browning, Roy. Lond. Ophthalmic Hosp., from typical case of conjunctivitis, 1921. 1921
Another strain (No. 977).

Lactobacillus pentoaceticus Fred, Peterson and Davenport

947. *118–8.* Isolated by E. B. Fred, Dept. of Agricultural Botany and Agricultural Chemistry, University of Wisconsin, U.S.A. Used in the production of acetic acid from pentoses (xylose, &c.). (*J. Biol. Chem.*, 1919, **39**, 347, and 1920, **42**, 175.) 1921

'Leather Bacillus'

672. *Houston.* Isolated by Sir Alexander Houston from leather washer of water tap. (*12th Research Report, Met. Water Bd.*, 1916.) Closely related to *B. lactis aerogenes* 1920

Leishmania donovani

861. London School of Tropical Medicine. *Ranger Ali.* Spleen puncture, case of kala-azar, 1920. 1921

Leishmania tropica

11 B. Dr. Row, Bombay. *Patton.* Typical Oriental sore, 1914. 1921

Leptospira icterohaemorrhagiae

636 A. Prof. Stokes. *America 2.* 1921

Leptospira icteroides Noguchi

634 A. Prof. Adrian Stokes, T.C.D. *Merida.* 1921
635 A. Prof. A. Stokes. *Areas.* 1921

Leptothrix

925. *1 Gifford.* Isolated by Dr. H. Gifford, Omaha, Neb., U.S.A., from conjunctival sac in conjunctivitis. (*J. Infect. Dis.*, 1920, **27**, 296.) 1921

Logos Yeast. See *Yeast* (*Logos*)

Marpmann's Bacillus

335. *Marpmann.* Acid-fast bacillus, isolated by Marpmann from urine. Old culture from Bayon's stock, 1912. 1920

Mather's Coccus

435. Prof. Jordan, Chicago. (*J. Infect. Dis.*, 1912, **25**, 28.) 1920

Meningococcus

668. Type I. Major Gordon Bell, R.A.M. College, Millbank. *Littledale.* Cerebro-spinal fluid. 1920
669. Type II. Major Gordon Bell. *Morgan.* Cerebro-spinal fluid. 1920
670. Type III. Major Gordon Bell. *Jackson.* Cerebro-spinal fluid. 1920
671. Type IV. Major Gordon Bell. *Hicks.* Cerebro-spinal fluid. 1920
9 other strains—Nos. 213, 214, 1013 and 1032 (Type I), Nos. 215 and 217 (Type II), Nos. 218 and 219 (Type III), No. 220 (Type IV).

Micrococcus catarrhalis

345. *Gordon.* Isolated by Dr. M. H. Gordon from broncho-pneumonic sputum, 1920. 1920

One other strain (No. 225).

Micrococcus flavus

664. Group I. *Ling.* Isolated by Major Gordon Bell from normal nasopharynx, 1920. 1920

665. Group II. *Heller.* Isolated by Major Gordon Bell from normal nasopharynx. 1920

Micrococcus pharyngis siccus

666. *Lewis.* Isolated by Major Gordon Bell from normal nasopharynx, 1920. 1920

Micrococcus tetragenus

951. Dr. Houghton, Parke Davis Co., Detroit, U.S.A. *0584.* 1921

Möller's 'Mist' Bacilli

526. National Biological Museum, New York. 1920

527. No. 2. National Biological Museum, New York. 1920

Monilia albicans

714. *Craik.* Isolated by Dr. Craik, Ealing, from mouth of child suffering from thrush, 1920. 1920

(For genus *Monilia* see Castellani and Chalmers, *Manual of Tropical Medicine,* 3rd Ed., 1919, p. 1079 et seq.)

Monilia candida

922. A. Chaston Chapman, F.R.S. *Chapman.* 1921

Monilia kruzei

698. Prof. Castellani. Isolated, 1909. 1920

Monilia macedoniensis

697. Prof. Castellani. Isolated 1917. 1920

Monilia pinoyi

707. Prof. Castellani. Isolated 1910. 1920

Monilia ? psilosis

1065. Dr. J. T. Duncan, London School of Trop. Med. *Panton.* Isolated from faeces of acute sprue case at Endsleigh Gardens Hospital. Agrees with description of *Parasaccharomyces ashfordi,* Anderson. 1921

4 other strains.

Monilia tropicalis

696. Prof. Castellani. Isolated 1909. 1920

Monilia zeylanica

699. Prof. Castellani. Isolated 1909. 1920

Mucor mucedo

809. Prof. Harden. *Bread.* Mouldy bread at Lister Inst. 1921

One other strain (No. 924).

Mucor rouxii

921. A. Chaston Chapman, F.R.S. *Chapman.* Found in Chinese yeast. 1921

Mucor stolonifer. See *Rhizopus nigricans*

Mycoderma cerevisiae

819. Prof. Harden, Lister Inst. *Harden.* 1921

Nocardia dessenviller

800. *94 Underground.* Isolated by Dr. Graham Forbes, L.C.C., from dust of London Tube Railway, 1920. 1920
6 other strains.

Nocardia indica

1040. *Mycetoma.* Isolated by Col. Cornwall, I.M.S., Pasteur Inst. for S. India, from material from sinus in leg of mycetoma patient, 1921. 1921

1070. *Madura Foot.* Isolated by Dr. J. H. Harvey Pirie, South African Inst. of Medical Research, Johannesburg, from M'Sutu native suffering from Madura foot, 1921. (*Med. J. of S. Africa*, 1921, **17**, 6.) 1921

Nocardia lutea

576. Sir F. W. Andrewes. *Khartum.* Isolated by Dr. Christopherson. Eye disease, Khartum, 1918. 1920

Oidium asteroides

700. Prof. Castellani. Isolated 1914. 1920
(For genus *Oidium* see Castellani and Chalmers, *Manual of Tropical Medicine*, 3rd Ed., 1919, p. 1093.)

Oidium lactis

923. A. Chaston Chapman, F.R.S. *Chapman.* 1921

Oidium rotundatum

701. Prof. Castellani. Isolated 1911. 1920

Parasaccharomyces ashfordi Anderson

1062. Dr. J. T. Duncan, London School of Trop. Med. Isolated from a sprue patient by Dr. B. K. Ashford in Porto Rico. (Anderson, *J. Inf. Dis.*, 1917, **21**, 341.) 1921

Pasteurella

948. *Mouse.* Isolated by Dr. W. W. C. Topley, Charing Cross Hosp., from lesions of mouse, mouse epizootic. 1921

966. Dr. W. G. Smillie, São Paulo, Brazil. *Rat.* Guinea-pig inoculated with kidney of infected rat. (*J. Infect. Dis.*, 1920, **27**, 378.) 1920

See also *B. avisepticus*, *B. bovisepticus*, *B. ovisepticus*, *B. suisepticus*, *B. cuniculisepticus*.

Penicillium album camemberti

601. Liebefeld, Berne, Switzerland. *Thaysen.* 1920

Penicillium avellaneum

984. Thom and Church, Washington, D.C., U.S.A. *Washington 4010.5.* 1921

Penicillium brevicaule Saccardo

580. Thom and Church. *Washington 2.* Cheese. 1920

581. (Var. *album* Thom.) Thom and Church. Camembert cheese. 1920

Penicillium camemberti Thom

582. Thom and Church. *Washington 5.* Found in Camembert cheese. 1920

583. (Var. *rogeri.*) Thom and Church. Found in Camembert, Brie, and Neufchâtel cheeses. 1920

Penicillium candidum

602. Liebefeld, Berne, Switzerland. *Thaysen.* 1920

Penicillium chrysogenum Thom

589. Thom and Church. *Washington 26.* 1920

Penicillium divaricatum Thom

590. Thom and Church. *Washington 34.* Mucilage bottle. 1920

Penicillium duclauxi Delacroix

587. Thom and Church. *Washington 20.* 1920

Penicillium expansum Link

593. Thom and Church. *Washington 4189.* Apple with coremiform rot. 1920

One other strain (No. 976).

Penicillium lilacinum Thom

584. Thom and Church. *Washington 8.* Common in soil. 1920

Penicillium luteum Zukal

585. Thom and Church. *Washington 11.* Common in soil. 1920

Penicillium oxalicum

983. Thom and Church. *Washington 103.* Type culture. 1921

Penicillium pinophilum Hedgcock

1151. Thom and Church. *Washington.* Type strain, from pine wood. 1921

Penicillium roqueforti Thom

588. Thom and Church. *Washington 18.* Characteristic of Roquefort cheese. 1920

Penicillium rugulosum Thom

592. Thom and Church. *Washington 46.* Isolated at Storrs, Conn., U.S.A. 1920

Penicillium spinulosum Thom

591. Thom and Church. *Washington 45.* From a laboratory culture, Hanover, Germany. 1920

Phycomyces nitens

1011. King's College for Women, Camden Hill Rd., W. 1921

Pichia alcoholophila

481. Dr. A. Klöcker, Carlsberg Lab. *Carlsberg.* From soil, Denmark. 1920

Pichia calliphorae Klöcker

483. Dr. A. Klöcker. *Carlsberg.* From a fly (*Calliphora erythrocephala*) found in a Carlsberg garden, 1900. (*Compt. rend. des trav. du Lab. Carlsberg*, 1913, **10**, 216.) 1920

Pichia farinosa Lindner-Hansen

901. A. Chaston Chapman, F.R.S. *Chapman.* The species was discovered in Danzig 'Jopen' beer, and has also been found by F. Sato in Japanese soya sauce. 1921

Pichia membranaefaciens Hansen

479. Dr. A. Klöcker. 1920

Pichia polymorpha Klöcker

480. Dr. A. Klöcker. *Carlsberg.* From soil, Denmark. (*Compt. rend. des trav. du Lab. Carlsberg*, 1913, **10**, 215.) 1920

Pichia suaveolens Klöcker

482. Dr. A. Klöcker. *Carlsberg.* From soil, Denmark, 1904. (*Compt. rend. des. trav. du Lab. Carlsberg*, 1913, **10**, 211.) 1920

Pneumococcus

339. Type I. Rockefeller Inst. *F. 1692.* Blood, lobar pneumonia. 1920

Pneumococcus (*continued*)

222 A. Type I. Prof. Glynn, Liverpool. *95.* 1920

340. Type II. Rockefeller Inst. *II. 75.* Blood, lobar pneumonia. 1920

341. Type II. Rockefeller Inst. *F. 208. 2.* Sputum, lobar pneumonia. 1920

342. Type II a. Rockefeller Inst. *Jn. 98.* Maxillary antrum pus, 1915. 1920

343. Type II b. Rockefeller Inst. *W. 67.* Lung puncture, primary pneumonia (child), 1915. 1920

344. Type III. Rockefeller Inst. *A. 66. 31.* Sputum, lobar pneumonia, 1913. 1920

223. Type III. Rockefeller Inst. *R. III.* 1920

996. Type IV. Dr. F. Griffith. *B. 32.* A typical pneumococcus strain isolated from sputum through mouse. Pneumonia. 1921
4 other strains, Type I; 2 others, Type II; another, Type III; 3 others, Type IV.

739. *Guinea-pig.* Isolated by Dr. Schütze from heart blood of guinea-pig dying at Lister Inst., 1920. 1920

Polyspora lini

1004. R. Leslie Collett, F.I.C. *6004.* Isolated from diseased flax by Dr. Pethybridge, Imp. Coll. of Science, Dublin. 1921

Pseudomonas barkeri

393. Dr. S. G. Paine. *Barker.* Isolated by Barker from infection with Barker's pear blossom blight. (*Ann. Applied Biol.*, 1918, **5**, 62.) 1920

Pseudomonas campestris

388. *Paine.* Isolated by Dr. S. G. Paine, Imperial Coll. of Science, S. Kensington, from a cauliflower infected with black rot, 1918. (*Ann. Applied Biol.*, 1918, **5**, 62.) 1920

***Pseudomonas* (*denitrifying*)**

933. *G. I. A. Rothamsted.* Isolated by H. G. Thornton from Barnfield soil, Rothamsted, 1921. Resembles *Bacillus New Jersey* (J. G. Lipman, *N. J. Agr. Stat. Rept.*, 1902, p. 183). 1921

Pseudomonas hyacinthi

387. *Paine.* Isolated by Dr. S. G. Paine from a hyacinth bulb infected with Wakker's disease, 1915. (*Ann. Applied Biol.*, 1918, **5**, 62.) 1920

Pseudomonas phaseoli

958. *Lacey.* Isolated by Miss M. S. Lacey from beans, 1920. 1921

Pseudomonas proteomaculans

394. *Kew.* Isolated by Dr. S. G. Paine from diseased leaves of *Protea cyranoides*, Kew Gardens. (*Ann. Applied Biol.*, 1919, **6**, 27.) 1920

Pseudomonas radicicola

928. H. G. Thornton, Rothamsted Experimental Station, Harpenden. *Soy Bean.* Nodule of soy bean, 1920. 1921

Pseudomonas tolaasi

392. *Mushroom.* Isolated by Dr. S. G. Paine from mushroom infected with brown-spot disease, 1916. (*Ann. Applied Biol.*, 1919, **5**, 206.) 1920

Pseudosaccharomyces (Apiculate Yeasts)

(*Compt. rend. de trav. du Lab. Carlsberg*, 1913, **10**, 285.)

Pseudosaccharomyces africanus
499. Dr. A. Klöcker. *Akbari 12.* Soil, Akbari, Algeria. 1920

Pseudosaccharomyces antillarum
490. Dr. A. Klöcker. *St. Thomas 208.* Soil, St. Thomas, W.I. 1920

Pseudosaccharomyces apiculatus Reess
497. Dr. A. Klöcker. Soil in environs of Carlsberg. 1920
One other strain.

Pseudosaccharomyces austriacus
492. Dr. A. Klöcker. *Alps Autr.* Soil, Austrian Alps. 1920

Pseudosaccharomyces corticis
485. Dr. A. Klöcker. *B. 60.* Bark, lichen, and moss from trees planted in environs of Copenhagen. 1920

Pseudosaccharomyces germanicus
491. Dr. A. Klöcker. *Harz 3.* Soil, Harz Mountains. 1920

Pseudosaccharomyces indicus
487. Dr. A. Klöcker. *Himalaya.* Soil, Himalayas. 1920

Pseudosaccharomyces javanicus
498. Dr. A. Klöcker. *Java 104.* Soil, Java. 1920

Pseudosaccharomyces jenseni
494. Dr. A. Klöcker. *Java 403.* Soil, Java. 1920

Pseudosaccharomyces lefari
489. Dr. A. Klöcker. *Java 105.* Soil, Java. 1920

Pseudosaccharomyces malaianus
484. Dr. A. Klöcker. *Java 104 a.* Soil, Java. 1920

Pseudosaccharomyces mülleri
496. Dr. A. Klöcker. *Java 201.* Soil, Java. 1920

Pseudosaccharomyces occidentalis
486. Dr. A. Klöcker. *St. Croix.* Soil, St. Croix, W.I. 1920

Pseudosaccharomyces santacruzensis
493. Dr. A. Klöcker. *St. Croix 409.* Soil, St. Croix, W.I. 1920

Pseudosaccharomyces willi
488. Dr. A. Klöcker. *St. Thomas 193.* Soil, St. Thomas, W.I. 1920

Rhizopus japonicus
604. A. Jörgensen's Lab., Copenhagen. *Thaysen.* 1920

Rhizopus nigricans
956. Prof. A. K. Ling, Birmingham University. *Ling.* 1921

Saaz Yeast. See *Yeast* (*Saaz*)

Saccharomyces anomalus. See *Willia anomala*

Saccharomyces apiculatus Hansen. See *Pseudosaccharomyces apiculatus* Reess.

Saccharomyces carlsbergensis Hansen
742. Dr. A. Klöcker, Carlsberg Lab. *Carlsberg.* (*Compt. rend. de trav. du Lab. Carlsberg*, 1900, **5**, 1.) 1920

Saccharomyces cerevisiae Hansen
466. Dr. A. Klöcker, Copenhagen. *Carlsberg.* 1920
381. Carlsberg Lab. *21.* Brewing yeast. 1920
815. Prof. Harden, Lister Inst. Baker's yeast. 1921

Saccharomyces ellipsoideus. (Syn. *Saccharomyces ellipsoideus I*)
467. Dr. A. Klöcker. *Carlsberg.* 1920
One other strain.

Saccharomyces ellipsoideus II. See *Saccharomyces turbidans*

Saccharomyces exiguus
812. Prof. Harden, Lister Inst. *Harden.* 1921

Saccharomyces farinosus. See *Pichia farinosa.*

Saccharomyces fragilis
905. A. Chaston Chapman, F.R.S. *Armstrong-Chapman.* Isolated from kefir by Jörgensen. (*Die Mikroorg. d. Gärungs-Industrie*, 1918, 276.) 1921

Saccharomyces intermedius
469. Dr. A. Klöcker. *Carlsberg.* 1921

Saccharomyces marxianus
472. Dr. A. Klöcker. *Carlsberg.* 1920

Saccharomyces monacensis Hansen
743. Dr. A. Klöcker. *Carlsberg.* (*Compt. rend. de trav. du Lab. Carlsberg*, 1900, **5**, 1.)

Saccharomyces pastorianus. (Syn. *Saccharomyces pastorianus I*)
468. Dr. A. Klöcker. *Carlsberg.* 1920

Saccharomyces pastorianus II. See *Saccharomyces intermedius*

Saccharomyces pastorianus III. See *S. validus*

Saccharomyces saké
1015. Prof. Ling, F.I.C., Birmingham. *Ling.* Isolated from saké. 1921

Saccharomyces thermantitonum Johnson, 1905
790. Jörgensen. *Jörgensen.* (*Biochem. Ztschr.*, 1919, **97**, 156.) 1921
791. Institut f. Gärungsgewerbe, Berlin. *Berlin.* (*Biochem. Ztschr.*, 1920, **102**, 258.) 1920
792. A. Chaston Chapman, F.R.S. *Chapman.* Believed to be descended from Johnson's original strain, 1905. 1921

Saccharomyces turbidans
471. Dr. A. Klöcker. *Carlsberg.* 1920

Saccharomyces validus
470. Dr. A. Klöcker. *Carlsberg.* 1920

Saccharomyces. See also *Yeast*

Saccharomycoides ludwigii
473. Dr. A. Klöcker. 1920

Saccharomycopsis capsularis
814. Prof. Harden, Lister Inst. *Harden.* 1920

Salmonella, type Arkansas. See *B. suipestifer* (No. 179)
type Binns. See *B. suipestifer* (Nos. 73 and 175)
type G. See *B. suipestifer* (No. 91)
type Hirschfeld. See *Bacillus from Hog cholera, B. paratyphosus C, B. suipestifer* (No. 352), *B. suis* (No. 426), *B. typhi suis, B. voldagsen*
type Mutton. See *B. anatum, B. psittacosis, Bacillus of Schweinpest, B. suipestifer* (Nos. 74, 115, 178, 32, 106, 959), *B. suis* (No. 425), *Bacillus of swine typhus*
type Newport. *B. suipestifer* (Nos. 129 and 726)
type Reading. *B. suipestifer* (No. 72)

Salmonella, type Schottmüller. See *B. paratyphosus B*
type Stanley. See *B. suipestifer* (No. 92)
unclassified serologically. See *B. abortivo-equinus*

Sarcina aurantiaca
952. Dr. Houghton, Parke Davis Co., Detroit, U.S.A. *01346.* 1921

Sarcina lutea
611. Dr. A. Thaysen, Holton Heath, Dorset. *Thaysen.* 1920

Schizosaccharomyces mellacei
1014. Prof. Ling, F.I.C., Birmingham. *Ling.* 1921

Schizosaccharomyces octosporus
382. Carlsberg Lab. *13.* 1920

Schizosaccharomyces pombé Lindner
902. A. Chaston Chapman, F.R.S. *Chapman.* The species was discovered by Saar in 'pombé' (African millet beer). 1921

Schwanniomyces occidentalis Klöcker
476. Dr. A. Klöcker. *Carlsberg.* 1920

Spirillum rubrum
953. Dr. Houghton, Parke Davis Co., Detroit, U.S.A. *01348.* 1921

Sporothrix
627. Capt. Edwards, R.A.V.C., Royal Vet. Coll., London. *25 Horse.* Abscess in leg of imported U.S. Army horse, 1915. 1920
7 other strains from equine cases of sporotrichosis.

Sporotrichum councilmani
882. Dr. K. F. Meyer. Isolated by Dr. Wolbach from a human case of sporotrichosis (acute arthritis of knee-joint following injury). (*J. Med. Research*, 1917, **36**, 337.) 1921

Sporotrichum gougeroti
744. *New Zealand.* Isolated by Dr. Champtaloup in New Zealand from urine of patient with cystitis, 1912. 1920

Sporotrichum schenckii
406. Hektoen. Original *Schenck-Hektoen.* Human case of sporotrichosis, 1900. (*Johns Hopkins Hosp. Bull.*, 1898, **9**, 286.) 1920
3 other strains of sporotrichum from human cases of sporotrichosis.

Staphylococcus cereus flavus
193. Lister Inst. *L.I.P.M.* 1920

Staphylococcus cremoris-viscosi
963. Isolated by B. W. Hammer and W. A. Cordes, Dairy Dept., Iowa State Coll., U.S.A., from an outbreak of ropy milk, 1920. (*J. Dairy Sc.*, 1920, **3**, 291.) 1921

Staphylococcus epidermidis albus
37. Lister Inst. *Huxley.* Sputum, 1911. 1920
4 other strains.

Staphylococcus pyogenes
186 A. (*aureus.*) *Eliza.* Isolated by Dr. C. J. Martin from abscess in neck of child, 1920. 1920
36. (*albus.*) Lister Inst. *Galloway.* Case of vaginitis, 1911. 1920
182. (*citreus.*) Lister Inst. *Moss.* Pimple on throat, 1915. 1920
15 other strains.

Staphylococcus salivarius

189. Lister Inst. *Rayner.* 1920

Stemphylium ? sp.

1005. *Cotton* (*France*). Isolated by Miss Lorrain Smith, F.L.S., Natural History Museum, S. Kensington, from rotting cotton canvas from France. 1921

1006. *Cotton* (*Dover*). Isolated by Miss Lorrain Smith, F.L.S., from rotting cotton canvas from Dover. 1921

Streptococcus acidi lactici Grotenfeldt

662. Dr. A. Thaysen, Holton Heath, Dorset. *Thaysen.* Milk. 1920

Streptococcus in animals

646. *62 A.* Isolated by Capt. Edwards, R.A.V.C., at Royal Vet. Coll., London, from strangles lesion in a horse, 1918. 1920

645. *90 Foal Sparrow.* Isolated by Capt. Edwards from pus from knee-joint of foal with joint ill, 1919. 1920

648. *Cow Wardlaw.* Isolated by Capt. Edwards from contagious mastitis of cow, 1918. 1920

11 other strains isolated from lesions of horses, cows, cats, and dogs.

Streptococcus bulgaricus

553. *Lind.* Isolated by Dr. C. Lind, Copenhagen, from specimen of Yoghurt obtained by him from Bulgaria, 1909. 1920

Streptococcus erysipelatis

226. Lister Inst. *L.I.P.M.* 1920

***Streptococcus* (*faecal*)**

370. (*S. faecalis.*) Capt. S. R. Douglas. *Stubbs IV* (*Elstree 35*). 1920

775. (*Enterococcus.*) Pasteur Inst., Paris. *Tissier.* 1920

5 other strains.

Streptococcus haemolyticus

Strains received from Dr. Avery, Rockefeller Inst. (*J. Exper. M.*, 1919, **30**, 179)

325. Type S. 3. *3. 22.* Broncho-pneumonic lung, Texas, U.S.A., 1918. 1920

326. Type S. 23. *23. 20.* Throat, lobar pneumonia, Texas, 1918. 1920

327. Type S. 60. *60. 10.* Throat, measles, Texas, 1918. 1920

328. Type S. 84. *84. 18.* Pleural fluid, broncho-pneumonia, Texas, 1918. 1920

6 other strains.

***Streptococcus* (*Havens' Groups*)**

Received from Dr. Havens, Iowa City, U.S.A. (*J. Infect. Dis.*, 1919, **25**, 315)

461. Group 1. *No. 2.* Sputum, broncho-pneumonia, 1918. 1920

462. Group 2. *No. 3.* Acute bronchitis, 1918. 1920

464. Group 3. *No. 5.* Broncho-pneumonia, 1919. 1920

One other strain of Group 2 (No. 463) and one other strain of Group 3 (No. 465).

Streptococcus ignavus

442. Dr. Barnes, California, U.S.A. *Barnes 11.* Sputum. (*J. Infect. Dis.*, 1919, **25**, 47.) 1920

Streptococcus infrequens

438. Dr. Barnes. *Barnes 3.* Gastric ulcer. (*J. Infect. Dis.*, 1919, **25**, 47.) 1920

7 other strains.

Streptococcus rheumaticus Allen

304. Dr. Allen. *Allen.* Blood, acute rheumatism and endocarditis, 1910. 1920

Streptococcus rheumaticus Beattie

227. Prof. Beattie. *Beattie.* 1920

Streptococcus salivarius

445. Dr. Barnes. *Barnes 34.* Tonsillitis. (*J. Infect. Dis.*, 1919, **25**, 47.) 1920

Streptococcus subacidus

437. Dr. Barnes. *Barnes 1.* Blood. (*J. Infect. Dis.*, 1919, **25**, 47.) 1920

Streptothrix

Strains from Streptotrichosis in Man

450. Dr. Gibson, Oxford. *Gibson.* Isolated 1914. 1920

146. Lister Inst. *C.S.F.* Cerebro-spinal fluid, 1920. 1920

658. Lister Inst. *Birt-Leishman.* 1920

Strains from Streptotrichosis in Animals

630. *24 Foal Blackwell.* Isolated by Capt. Edwards, R.A.V.C., Royal Vet. Coll., London, in pure culture from hock joint of foal. 1920

628. (*S. cameli* Mason.) Capt. Edwards, R.A.V.C. *Camel.* Isolated by Major Mason, R.A.V.C., from lung of Sudanese camel, 1917. (*J. Comp. Path. and Therap.*, 1919, **32**, 34.) 1920

Thamnidium elegans Link

920. A. Chaston Chapman, F.R.S. *Chapman.* 1921

Timothy Grass Bacillus. See *B. phlei*

Torula

886. Dr. K. F. Meyer. *2.* Isolated by Stoddart and Cutler in Boston, Mass., from human case of torula infection. (*Monog. Rockefeller Inst. M. Research*, 1916, **6**.) 1921

885. *1.* Isolated by Dr. K. F. Meyer from nasal tumour of a horse in Philadelphia, 1912. 1921

***Torula* (*black*)**

908. A. Chaston Chapman, F.R.S. *Chapman.* 1921

***Torula* (*red*)**

820. (*Torula rosea.*) Prof. Harden, Lister Inst. *Harden.* 1921

241 A. (Pink Torula.) Dr. S. G. Paine, Imperial Coll. of Science, S. Kensington. *Paine.* 1920

907. (Red Torula.) A. Chaston Chapman, F.R.S. *Chapman.* 1921

Trichophyton balcaneum

704. Prof. Castellani. Isolated 1915. 1920

Trichophyton, &c.

12 strains of organisms derived from tinea circinata, tinea tonsurans, dhobi itch, favus, &c., which have been only partly identified.

Trypanosoma brucei

23 A. Prof. Ehrlich through Prof. Warrington Yorke, Liverpool School of Tropical Medicine. *Nagana ferox.* 1920

Trypanosoma equiperdum

18 A. Pasteur Inst., Paris. *Algeria.* Algerian strain. 1921

Trypanosoma lewisi

24 A. *Robertson.* Isolated by Miss M. Robertson, Lister Inst., from wild rats, 1920. 1920

Trypanosoma nigeriense

19 A. Miss M. Robertson. *West Africa.* Human case of trypanosomiasis, West Africa. 1920

Trypanosoma rhodesiense

28 A. Prof. Warrington Yorke. *Yorke.* Human case of trypanosomiasis. 1921

Vibrio cholerae

723. Col. Liston. *Liston 253.* Choleraic stool, Bombay, 1918. 1920
18. Dr. J. Freeman, St. Mary's Hosp. *Freeman 33.* Case of mild cholera in Russia, 1914. 1920
20. Dr. J. Freeman. *Kucera.* Isolated by Prof. Kucera, Hungarian epidemic, 1913. 1920
21. *Singapore.* Case from Straits Settlements. 1920
26. Col. Liston. *Liston.* Stool of Sepoy attacked on way to Persian Gulf, 1915. 1920

12 other strains.

Vibrio El Tor

307. Dr. Crendiropoulo. *No. 4.* Isolated by Gotschlich from intestine of dysenteric patient at El Tor, 1905. (*Ztschr. f. Hyg. u. Infektionskrankh.*, 1906, **53**, 281.) 1920
55. Dr. Crendiropoulo. *A.* 1920
56. Král, Prague. *V.* 1920

2 other strains of 'El Tor' Vibrios (Nos. 57 and 58) which do not agglutinate with cholera serum (see *Ztschr. f. Hyg. u. Infektionskrankh.*, 1906, **53**, 281).

Vibrio fetus Theobald Smith

384. *438.* Isolated by Prof. Theobald Smith. (*J. Exper. M.*, 1919, **30**, 299.) 1920

Vibrio Finckler-Prior

774. King's College, London. 1920

Vibrio from oysters

831. *B. 22-6.* Isolated by Mrs. Barratt at Lister Inst. from diseased East Coast oysters, 1920. 1921

Vibrio paracholerae

30. (*V. paracholerae* Martin No. 1.) Lt.-Col. Martin. Stool of convalescent patient, Montazah, 1916. 1920
558. (*V. paracholerae A* Mackie and Storer, *J. Roy. Army Med. Corps*, 1918, **31**, 161). Stool from choleraic case, Egypt, 1916. 1920
559. (*V. paracholerae B* Mackie and Storer.) Source as in No. 558. 1920
560. (*Vibrio K* Mackie.) Prof. Mackie. Choleraic case in Egypt, 1917. 1920
561. (*Vibrio Belah* Mackie.) Source as in No. 560. 1920
562. (*Vibrio Forrest* Mackie.) Source as in No. 560. 1920
261. (*Vibrio Nasik.*) Lister Inst. Isolated by Dr. Simond from a case of typical cholera in Nasik, India, 1903. 1920

Vibrio metchnikovi

262. Lister Inst. Originally isolated by Gamaleia from disease of fowls. 1920

Vibrio resembling *V. cholerae*

719. Col. Liston. *Liston 128.* Water, Bombay. 1920
17 strains besides this and others under special names.
See also *Spirillum rubrum.*

Vibrion septique Pasteur and Joubert, 1877

548. Type I. Miss M. Robertson. *Brissons.* Isolated by Capt. Henry from case of gas gangrene. 1920

282. Type II. Miss M. Robertson. *Bedford.* Amoebic abscess of brain. 1920

284. Type III. Miss M. Robertson. *George A. 2.* Case of gas gangrene developing upon surgical treatment of a healed wound. 1920

286. Type 'Jerral'. Capt. Armitage. *Jerral.* Septic wound without gas gangrene. 1920

One other strain (No. 547) of Type I: 3 other strains of Type II: 4 other strains of Type III.

Willia anomala

474. Dr. A. Klöcker, Carlsberg Lab. *Carlsberg.* 1920

Willia saturnus Klöcker

475. Dr. A. Klöcker. *Carlsberg.* 1920

***Yeast* (*Frohberg*)**

903. A. Chaston Chapman, F.R.S. *Chapman.* Isolated by Lindner from yeast from Frohberg's Brewery at Grimma, Saxony. 1921

***Yeast* (*Kefir*)** Hansen

904. A. Chaston Chapman, F.R.S. *Chapman.* 1921

***Yeast* (*Lactose-fermenting*)**

607. Dr. A. Thaysen, Holton Heath, Dorset. *Thaysen.* St. Ivel cheese. 1920

***Yeast* (*Logos*)**

909. *Ling.* Isolated previous to 1895 by H. van Laer and Denamur from pitching yeast used at Logos & Co.'s Brewery, Rio de Janeiro. Origin unknown, probably sugar-cane. Received by Dr. Raistrick from Prof. Ling, 1920. (*Moniteur scient.*, 1895, July, 499.) 1921

***Yeast* (*Saaz*)**

906. A. Chaston Chapman, F.R.S. *Chapman.* Isolated by Lindner at Institut für Gärungsgewerbe, Berlin, from pitching yeast used in the municipal brewery at Saaz, Bohemia. 1921

***Yeast* (*Sternberg '675'*)**

608. Dr. A. Thaysen. *Thaysen.* Used in U.S.A. for manufacture of glycerine. 1920

Yeasts, apiculate. See *Pseudosaccharomyces*

Zopfius zenkeri. See *B. proteus zenkeri*

Zygosaccharomyces barkeri

813. Prof. Harden, Lister Inst. *Harden.* 1921

PART II. LIST OF SUBJECTS

WITH REFERENCES TO THE RELATED ORGANISMS

ABORTION in cattle and pigs
B. abortus
Vibrio fetus
in horses
B. abortivo-equinus
ACETIC ACID, organism used in manufacture of, from pentoses
Lactobacillus pentoaceticus
see also Vinegar
ACETONE, organism used in manufacture of
B. butylicus
ACID-FAST BACILLI
Bacilli from butter
Bacillus from Leprosy.
B. johne
B. phlei
B. smegmatis
Marpmann's bacillus
Möller's 'Mist' bacilli
see also Tuberculosis
ACNE
B. acnes
ACTINOBACILLOSIS
Actinobacillus
ACTINOMYCOSIS in animals
Actinomyces caprae
&c. in man
Actinomyces bovis
Actinomyces (Nos. 434 and 600)
Nocardia lutea
AIR: *see* Soil, Air, Water, &c., organisms from
ANAEROBES, pathogenic: *see* Botulism, Gas gangrene, Necrobacillosis, Rauschbrand, Tetanus
ANTHRAX
Anthracoid bacillus
B. anthracis

BEANS, disease of
Pseudomonas phaseoli
BLACK ROT of cauliflower
Pseudomonas campestris
BLASTOMYCOSIS in animals
Torula (No. 885)
in man
Blastomyces (Nos. 271 and 272)
Torula (No. 886)
BOTULISM
B. botulinus
BREAD, ROPINESS IN
B. mesentericus panis viscosi
B. mesentericus (Jordan Lloyd's types)
BRUCELLOSIS
B. abortus
B. melitensis
B. paramelitensis
BUTTER, acid-fast bacilli from
Bacilli from butter
BUTYL ALCOHOL, organism used in manufacture of
B. butylicus

CABBAGE OR TURNIP ROT
B. caratovorus
CANVAS ROT, organisms associated with
Alternaria ? sp.
Botrytis ? sp.
Diplodiella ? sp.
Stemphylium ? sp.
CEREBRO-SPINAL MENINGITIS
Meningococcus
CHEESE, fungi of
Penicillium album camemberti
P. brevicaule
P. camemberti
P. roqueforti
micro-organisms of
B. güntheri
Emmentaler Coccus
Yeast (lactose-fermenting) No. 607
CHOLERA
Vibrio cholerae
V. El Tor
see also Paracholera

Coccidiodal granuloma
Coccidiodes immitis
Conjunctivitis
Koch-Weeks' bacillus
chronic
Leptothrix
Coliform types from various sources
B. acidi lactici
B. cloacae
B. coli communis
Bacillus (coliform)
B. communior
B. lactis aerogenes
B. neapolitanus
B. ozaenae
B. putrificus coli
Leather bacillus
Cystitis, organisms isolated from cases of
Bacillus (coliform)

Dhobi itch
Trichophyton
Diarrhoea, white, of chicks
B. pullorum
see also Fowl typhoid
Diarrhoeal conditions other than cholera, organisms associated with
B. asiaticus
B. columbensis
B. faecalis alcaligenes
B. Morgan No. 1
B. proteus
B. pyocyaneus
B. Schmitz
Distemper, organisms associated with
B. bronchisepticus
Distemper bacillus
Diphtheria
Corynebacterium diphtheriae
Diphtheroid organisms from animals
Corynebacterium flavidum
C. lipolyticum
C. pseudotuberculosis
C. pyogenes
Diphtheroids
from man
Corynebacterium coryzae segmentosum
C. hofmanni
C. ixerosis
Dysentery, bacillary
B. dysenteriae

Enteric fever
B. typhosus

Enteritis in calves
B. paracoli
in man
B. enteritidis Gärtner (N 127)
Erysipelas, swine
B. erysipelatis suis
Eye diseases, Koch-Weeks' bacillus

Favus
Trichophyton
Fermentation industries, micro-organisms associated with
Amylomyces (various species)
Aspergillus ,,
B. acetoethylicum
B. butylicus
B. volutans
Citromyces B.
Debaryomyces globosus
Hansenia apiculata
Hanseniaspora valbyensis
Lactobacillus pentoaceticus
Monilia candida (No. 922)
Mucor (various species)
Mycoderma cerevisiae
Oidium lactis
Penicillium (various species)
Pichia ,,
Pseudosaccharomyces (various species)
Rhizopus (various species)
Saccharomyces ,,
Saccharomycoides ludwigii
Saccharomycopsis capsularis
Schizosaccharomyces (various species)
Schwanniomyces occidentalis
Thamnidium elegans
Torula (Nos. 241A, 820, 907, 908)
Willia (various species)
Yeast (Nos. 608 and 904)
Zygosaccharomyces barkeri
Fish diseases
Bacillus from trout
Flax, organism associated with disease of
Polyspora
Food-poisoning in man
B. aertrycke
B. enteritidis Gärtner (Nos. 125, 126)
B. paratyphosus C (No. 749)
B. suipestifer (Nos. 72, 73, 74, 115, 129, 178)

FOWL TYPHOID
B. sanguinarium
B. gallinarum
see also Diarrhoea, white, of chicks
FUNGI, tropical, associated with lesions of epidermis and epidermal appendages
Acladium castellani
Endodermophyton indicum
Epidermophyton rubrum
Hemispora rugosa
Monilia kruzei
M. macedoniensis
M. pinoyi
M. tropicalis
M. zeylanici
Oidium asteroides
O. rotundatum
Trichophyton balcaneum

GAS GANGRENE, anaerobes liable to cause
B. fallax
B. histolyticus
B. oedematiens
B. welchii
Vibrion septique
anaerobes whose action may be ancillary to condition of
B. aerofetidus
B. bifermentans
B. cochlearius
B. parasporogenes
B. sphenoides
B. sporogenes
B. tertius
B. tetanomorphus
GLANDERS
B. mallei
GONORRHOEA
Gonococcus
GUINEA-PIG EPIZOOTIC
B. paratyphosus B (No. 959)
B. caviae

HAEMORRHAGIC SEPTICAEMIA: *see* Septicaemia, haemorrhagic
HOG CHOLERA
Bacillus from hog cholera
B. suipestifer (No. 179)
HYACINTH BULBS, Wakker's disease of
Pseudomonas hyacinthi

INFLUENZA, organisms associated with
B. influenzae
Mather's Coccus

JOHNE'S DISEASE
B. johne
JOINT ILL in foals
B. viscosum equi
Streptococcus (No. 645)

KALA-AZAR
Leishmania donovani

LEATHER, organism causing black and dark green spots on
Fumago (No. 968)
LEPROSY
B. leprae
LYMPHANGITIS, epizootic, in horses
Cryptococcus farcinosus
ulcerative, in horses
Corynebacterium pseudotuberculosis

MADURA FOOT
Nocardia indica
MALTA FEVER
B. melitensis
B. paramelitensis
MASTITIS, contagious, in cows
Streptococcus (No. 648)
MEASLES, organisms associated with
Diplococcus (No. 407)
MILK and milk products, micro-organisms of
B. bulgaricus
B. güntheri
Emmentaler Coccus
Streptococcus acidi lactici
S. bulgaricus
Yeast (lactose-fermenting) (No. 607)
ropiness in
Staphylococcus cremoris-viscosi
MULBERRY, disease of
B. mori
MUSHROOM, brown spot disease of
Pseudomonas tolaasi
MYCETOMA
Nocardia indica

NECROBACILLOSIS
B. necrophorus

ORIENTAL SORE
Leishmania tropica

PARACHOLERA
Vibrio paracholerae

PARATYPHOID A FEVER
B. paratyphosus A
—— B FEVER
B. paratyphosus B (*Salmonella*, type Schottmüller)
—— C FEVER
B. paratyphosus C (*Salmonella*, type Hirschfeld)
PASTEURELLOSIS: *see* Plague *and* Septicaemia, haemorrhagic, in animals
PEAR BLOSSOM BLIGHT
Pseudomonas barkeri
PLAGUE
B. pestis
PLANTS, bacteria causing diseases of
Aplanobacter michiganense
B. caratovorus
B. lathyri
B. mori
B. solanisaprus
B. vesicatorum
Pseudomonas barkeri
Ps. campestris
Ps. hyacinthi
Ps. phaseoli
Ps. proteomaculans
Ps. tolaasi
PNEUMONIA
Pneumococcus
PROTOZOA
Colpidium colpoda
Leishmania donovani
L. tropica
Trypanosoma brucei
T. equiperdum
T. lewisi
T. nigeriense
T. rhodesiense
PYELONEPHRITIS in cattle
Corynebacterium pyogenes

RAUSCHBRAND (quarter ill)
B. chauvoei
RESPIRATORY TRACT, Gram-negative cocci from
Micrococcus catarrhalis
M. flavus
M. pharyngis siccus
ROPINESS in bread
B. mesentericus (Jordan Lloyd's types)
B. mesentericus panis viscosi
in milk
Staphylococcus cremoris-viscosi

SALMONELLOSIS
B. abortivo-equinus
B. caviae
B. enteritidis Gärtner
B. gallinarum
Bacillus from hog cholera
B. paratyphosus B
B. paratyphosus C
B. psittacosis
B. pullorum
B. sanguinarium
Bacillus of Schweinpest
B. suipestifer
B. suis
Bacillus of swine typhus
B. typhi suis

SAN JOAQUIN VALLEY DISEASE
Coccidiodes immitis

SEPTICAEMIA, haemorrhagic, in animals
B. avisepticus
B. bovisepticus
B. cuniculisepticus
B. ovisepticus
B. pseudotuberculosis rodentium
B. suisepticus
Pasteurella

SEPTICAEMIC processes (boils, abscesses, &c.)
Micrococcus tetragenus
Staphylococcus (various species)
Streptococcus ,,

SKUNK EPIZOOTIC
B. suipestifer (No. 106)

SOIL, AIR, WATER, DUST, &c., organisms from
Acrostalagmus cinnabarinus
Actinomyces (No. 390)
B. dendroides
B. fluorescens
B. herbicola
B. megatherium
B. mesentericus
B. mycoides
B. prodigiosus
B. subtilis
B. violaceus
Nocardia dessenviller
Pseudomonas radicicola
Pseudomonas (denitrifying)
Sarcina aurantiaca
S. lutea
Vibrios from water, &c.

Soy bean, organism from nodule of root of
Pseudomonas radicicola
Sporotrichosis in animals
Sporothrix
in man
Sporotrichum councilmani
S. gougeroti
S. schenckii
Sprue, organisms associated with
Monilia ? psilosis
Parasaccharomyces ashfordi
Strangles in horses
Streptococcus (No. 646)
Streptotrichosis in animals
Streptothrix (No. 630)
S. cameli
in man
Streptothrix (Nos. 146, 450, and 658)
Swine fever
Bacillus of Schweinpest
—— typhus
Bacillus of swine typhus

Tetanus
B. tetani
Thrush
Monilia albicans
Timothy grass, bacillus of
B. phlei
Tinea circinata
Trichophyton
—— tonsurans
Trichophyton
Tomato, Grand Rapids disease of
Aplanobacter michiganense
Tomato canker
B. vesicatorium
Torula infection in man
Torula (No. 886)
Trypanosomiasis
Trypanosoma brucei
T. equiperdum
T. lewisi
T. nigeriense
T. rhodesiense
Tuberculosis, amphibian
B. tuberculosis (No. 946)
Tuberculosis, avian
B. tuberculosis (Nos. 51, 224 A, and 919)
——, bovine
B. tuberculosis (Nos. 46, 47, 49, 918)
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B. tuberculosis (Nos. 48, 50, 52, 914, and 917)
Turnip or cabbage rot
B. caratovorus
Typhoid fever
B. typhosus
see also Fowl typhoid
Typhus fever, organism associated with
B. typhi exanthematici
see also Swine typhus

Ulcerative lymphangitis in horses
Corynebacterium pseudotuberculosis
Undulant fever
B. melitensis
B. paramelitensis

Vinegar, organisms associated with manufacture of
B. aceti
B. kützingianum
B. pasteurianum
Bacterium from vinegar
see also Acetic acid

Water: *see* Soil, Air, Water, Dust, &c., organisms from
Weil's disease
Leptospira icterohaemorrhagiae
Weil-Felix reaction
B. proteus vulgaris X. 19 (No. 67)
Whooping-cough
B. pertussis

Yeast, baker's
Saccharomyces cerevisiae (No. 815)
brewer's
Saccharomyces cerevisiae (No. 381)
Yeast (Frohberg, Logos, and Saaz)
Yellow fever
Leptospira icteroides

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